

**TITLE OF THE INVENTION**

**A MOUNTING A HOLOGRAPHIC SIGHT ON A FIREARM**

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## A MOUNTING A HOLOGRAPHIC SIGHT ON A FIREARM

### CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims priority under 35 U.S.C. § 119 of French Patent Application Nos. 03.02718 filed March 5, 2003 and 03.11253 filed September 25, 2003, the disclosures of which are expressly incorporated by reference herein in their entireties.

### BACKGROUND OF THE INVENTION

#### 1. Field of the invention

[0002] The present invention relates to mounting a sight, such as a holographic sight, on firearms and more particularly on firearms, such as an over and under shotgun or handguns such as an automatic pistol with a mobile slide. It is found that mounting a holographic sight at a muzzle end of a barrel of a firearm facilitates shooting. The sight being substantially on a sighting axis of the firearm, i.e. on the virtual line passing from a back sight to a fore sight, or simply corresponding to a rib of a shotgun.

#### 2. Discussion of background Information

[0003] For over and under shotguns, the barrels are linked by a spacer and to mount a holographic sight on an upper barrel of the firearm the rib must be eliminated or at least modified.

[0004] For automatic pistols with a mobile slide, the prior art provides a clamp supporting a rail on which the sight is mounted having two branches disposed on respective opposite sides of and screwed to the slide.

[0005] This kind of mounting is complex and heavy, and demounting the clamp takes a long time should the shooter need to remove the holographic sight quickly.

#### SUMMARY OF THE INVENTION

[0006] The present invention provides a simpler mounting that is very safe, enables a holographic sight to be fitted very quickly to an over and under shotgun or to a handgun without having to modify the gun, and enables the holographic sight to be removed easily and quickly.

[0007] The mounting according to the invention is for a firearm having a sighting axis, such as an over and under shotgun or an automatic pistol having a mobile slide, and comprises a support provided at one end with a fastener for fixing it laterally to the firearm in the vicinity of the muzzle end of the barrel while the other end supports the holographic sight. The support is shaped so that the end supporting the holographic sight lies above the firearm so that the holographic sight is substantially on the sighting axis. Thus, a holographic sight can be mounted on an over and under shotgun without having to modify the rib and, in the case of pistols with a mobile slide the slide, can move freely each time the pistol is fired.

[0008] According to one feature, the firearm has a lateral dovetail groove on a fixed portion, in which a corresponding end of the support is provided with a strip adapted to be inserted into the dovetail groove. A fastener is provided for immobilizing the strip in the groove. This provides a simple, safe and fast mounting that can be demounted very quickly if required.

[0009] In one aspect of the invention, the mounting includes an attachment strip on a fixed lateral portion of the firearm and incorporating the dovetail groove and holes for

fixing screws. The dovetail groove can preferably terminate at an abutment. The abutment may be at the same end as the muzzle end of the barrel of the firearm. This can be of particular benefit in the case of automatic pistols with a mobile slide in particular, where there would otherwise be the risk of the support moving on each return movement of the slide.

[0010] According to another aspect of the invention, the strip includes a tapped hole into which a locking screw is screwed to bear against the bottom of the dovetail groove. The bottom of the dovetail groove includes a spot facing adapted to receive the end of the locking screw in the locking position of the strip in the groove. This improves the locking of the sight onto the firearm. Finally, the attachment strip terminates in an inclined ramp at the end opposite the abutment, which facilitates inserting the strip in the groove.

[0011] According to another aspect of the invention, a mounting for a holographic sight on a firearm having a sighting axis includes a support with at least one fastener that fixes one end of the support laterally to the firearm in a vicinity of a muzzle end of a barrel of the firearm, and the support supports the holographic sight at an other end. The support is configured so that the end supporting the holographic sight is positioned above the firearm and so that the holographic sight is substantially on the sighting axis. The mounting further having a strip coupled to the support. The firearm has a lateral dovetail groove on a fixed portion and the strip is configured to be inserted into the dovetail groove, and the at least one fastener is structured and arranged to immobilize the strip in the groove. The mounting also having an attachment strip structured and arranged to be fixed to the firearm to form the dovetail groove and the attachment strip incorporating the

dovetail groove and including holes for fixing screws. The mounting further including the dovetail groove that terminates at an abutment. The abutment is at a same end as the muzzle end of the barrel of the firearm. The mounting further having a locking screw. The strip includes a tapped hole into which the locking screw extends and bears against a bottom of the dovetail groove. The bottom of the dovetail groove includes a spot facing configured to receive an end of the locking screw in a locking position of the strip in the groove. The attachment strip terminates in an inclined ramp at an end opposite an abutment. The firearm comprises one of an over and under shotgun and an automatic pistol having a mobile slide.

[0012] Another aspect of the invention includes a firearm coupled with the mounting for the holographic sight. The mounting for a holographic sight on a firearm having a sighting axis includes a support with at least one fastener that fixes at one end of the support laterally to the firearm in a vicinity of a muzzle end of a barrel of the firearm, and the support supports the holographic sight at an other end. The support is configured so that the end supporting the holographic sight is positioned above the firearm and so that the holographic sight is substantially on the sighting axis.

[0013] Another aspect of the invention includes a holographic sight coupled with the mounting for the holographic sight. The mounting for a holographic sight on a firearm having a sighting axis includes a support with at least one fastener that fixes at one end of the support laterally to the firearm in a vicinity of a muzzle end of a barrel of the firearm, and the support supports the holographic sight at an other end. The support is configured so that the end supporting the holographic sight is positioned above the firearm and so that the holographic sight is substantially on the sighting axis.

[0014] Another aspect of the invention includes a firearm sight mount having an arc-shaped support that is configured to support a sight, an attachment that attaches the arc-shaped support to a firearm, and at least one fastener that fastens the attachment to the firearm. The arc-shaped support is configured to support the sight above the firearm so that the sight is substantially on a sighting axis. The firearm furthermore has a lateral dovetail groove. The attachment is a strip configured to be inserted into the dovetail groove and the at least one fastener immobilizes the strip in the groove. The firearm can include a sight mount having an attachment strip on a fixed lateral portion of the firearm having a dovetail groove and holes for fixing screws. The dovetail groove terminates at an abutment. The abutment is at a same end as a muzzle end of a barrel of the firearm. The strip includes a tapped hole into which is screwed a locking screw bearing against a bottom of the dovetail groove. The bottom of the dovetail groove includes a spot facing configured to receive an end of the locking screw in a locking position of the strip in the groove. The attachment strip terminates in an inclined ramp at the end opposite the abutment. The firearm can be an over and under shotgun or an automatic pistol having a mobile slide.

[0015] Another aspect of the invention includes a method of mounting a sight including coupling an arc-shaped support to a sight, attaching the arc-shaped support to a firearm with an attachment, and fastening the attachment to the firearm with at least one fastener. The arc-shaped support being configured to support the sight above the firearm so that the sight is substantially on a sighting axis.

[0016] Other exemplary embodiments and advantages of the present invention may be ascertained by reviewing the present disclosure and the accompanying drawing.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0017] The present invention is further described in the detailed description which follows, in reference to the noted plurality of drawings by way of non-limiting examples of exemplary embodiments of the present invention, in which like reference numerals represent similar parts throughout the several views of the drawings, and wherein:

[0018] Figure 1 is an exploded perspective view of a mounting in accordance with the invention;

[0019] Figure 2 is a front view in elevation showing the mounting according to the invention;

[0020] Figure 3 is a perspective view of an automatic pistol including a mounting in accordance with the invention; and

[0021] Figure 4 is an exploded perspective view showing details of the mounting.

### DETAILED DESCRIPTION OF THE PRESENT INVENTION

[0022] The particulars shown herein are by way of example and for purposes of illustrative discussion of the embodiments of the present invention only and are presented in the cause of providing what is believed to be the most useful and readily understood description of the principles and conceptual aspects of the present invention. In this regard, no attempt is made to show structural details of the present invention in more detail than is necessary for the fundamental understanding of the present invention, the description taken with the drawings making apparent to those skilled in the art how the several forms of the present invention may be embodied in practice.

[0023] Figures 1 and 2 show barrels 1 and 2 of an over and under shotgun. The upper barrel 1 of the firearm includes a rib 3. The rib 3 can be of the ventilated type. The

barrels 1 and 2 are connected by a spacer 4. In the spacer 4, at a muzzle end of the barrels 1 and 2, is a dovetail groove 5 that is closed at a same end as the muzzle ends of the barrels 1 and 2.

[0024] It should be understood that it would be within the spirit and scope of the present invention to use any form of firearm including single barrel shotguns, double barrel shotguns, handguns, revolvers, and rifles for use in the present invention.

[0025] A sight, such as for example a holographic sight 6, is fixed by screws 11 to one end of a circular arc-shaped support 7. The other end of the support 7 is fixed by fasteners, such as for example screws 12, to an attachment, such as for example dovetail-shaped strip 8, that is configured to fit in a dovetail groove 5. The strip 8 is provided with a fastener, such as for example a screw 10, for immobilizing the dovetail-shaped strip 8 in the dovetail groove 5. As noted in figure 2, the screw 10 is capable of extending through dovetail-shaped strip 8 to a bottom of dovetail groove 5. It should be understood that it would be within the spirit and scope of the present invention to use any type of mechanical fastener, fixing device, or component including bolts, clamps, and nuts to attach the holographic sight 6 to the support 7 and support 7 to spacer 4.

[0026] The mounting of the holographic sight 6 is very simple and the holographic sight 6 can be mounted without modifying the rib 3. Furthermore, demounting is effected quickly and simply by merely unscrewing the screw 10 to release the strip 8.

[0027] In this embodiment, the dovetail groove is in the spacer 4, alternatively a simple attachment strip could be provided in which there is a dovetail groove and which is fixed to the spacer 4 in the same way as in the embodiment to be described next relating to an automatic pistol.



[0028] Figures 3 and 4 show a conventional automatic pistol comprising a slide frame 15, a butt 16, a trigger 17, a magazine 18 inserted into a housing in the butt 16, and a barrel 19. The automatic pistol includes a mobile slide 20 for ejecting a cartridge case through an opening 21 each time the pistol is fired. The slide carries a fore sight 36 and a back sight 37 that together define a sighting axis.

[0029] In accordance with the invention, an attachment strip 22 is fixed to one side of the slide frame 15 near a muzzle end of the barrel 19 that has a dovetail groove 23 in a bottom of which are holes 24 through which pass screws 25 that screw into tapped holes in the slide frame 15. The dovetail groove 23 of bar 22 terminates at one end in an abutment 26 and at the other end in an inclined ramp 27. The groove 23 is adapted to receive a strip 29 fastened to one end of an arcuate or arc-shaped support 30 whose other end 38 is adapted to lie above the slide 20. A sight, such as for example a holographic sight 33, is fixed to the latter end by fasteners, such as for example screws 32. The strip 29 has a tapped hole 36 through which is screwed a screw 34 cooperating with a spot facing 35 on a bottom of groove 23 to immobilize the strip 29 in groove 23 against the abutment 26. The inclined portion 27 facilitates inserting the strip 29 into the groove 23. The strip 29 will be aligned because it bears against the abutment 26 when the slide 20 moves back. Finally, the assembly can easily be removed from the pistol by unscrewing the screw 34 and sliding strip 29 out of groove 23.

[0030] To prevent impeding the movement of the slide 20 each time the pistol is fired, an end 38 of the holographic sight 33 has a notch 39 to allow the fore sight 36 to pass under the end 38 of the support 30. This kind of mounting is simple and light in weight.

[0031] Alternatively, the dovetail groove could be formed directly in the slide frame 15 during manufacture of the automatic pistol. Again, it should also be understood that it would be within the spirit and scope of the present invention to use any type of mechanical fastener, fixing device, or component including bolts, clamps, and nuts in the present invention.

[0032] It is noted that the foregoing examples have been provided merely for the purpose of explanation and are in no way to be construed as limiting of the present invention. While the present invention has been described with reference to an exemplary embodiment, it is understood that the words which have been used herein are words of description and illustration, rather than words of limitation. Changes may be made, within the purview of the appended claims, as presently stated and as amended, without departing from the scope and spirit of the present invention in its aspects. Although the present invention has been described herein with reference to particular means, materials and embodiments, the present invention is not intended to be limited to the particulars disclosed herein; rather, the present invention extends to all functionally equivalent structures, methods and uses, such as are within the scope of the appended claims.